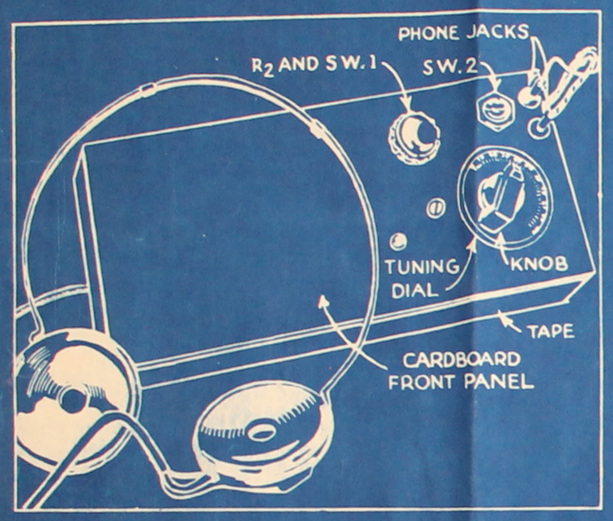


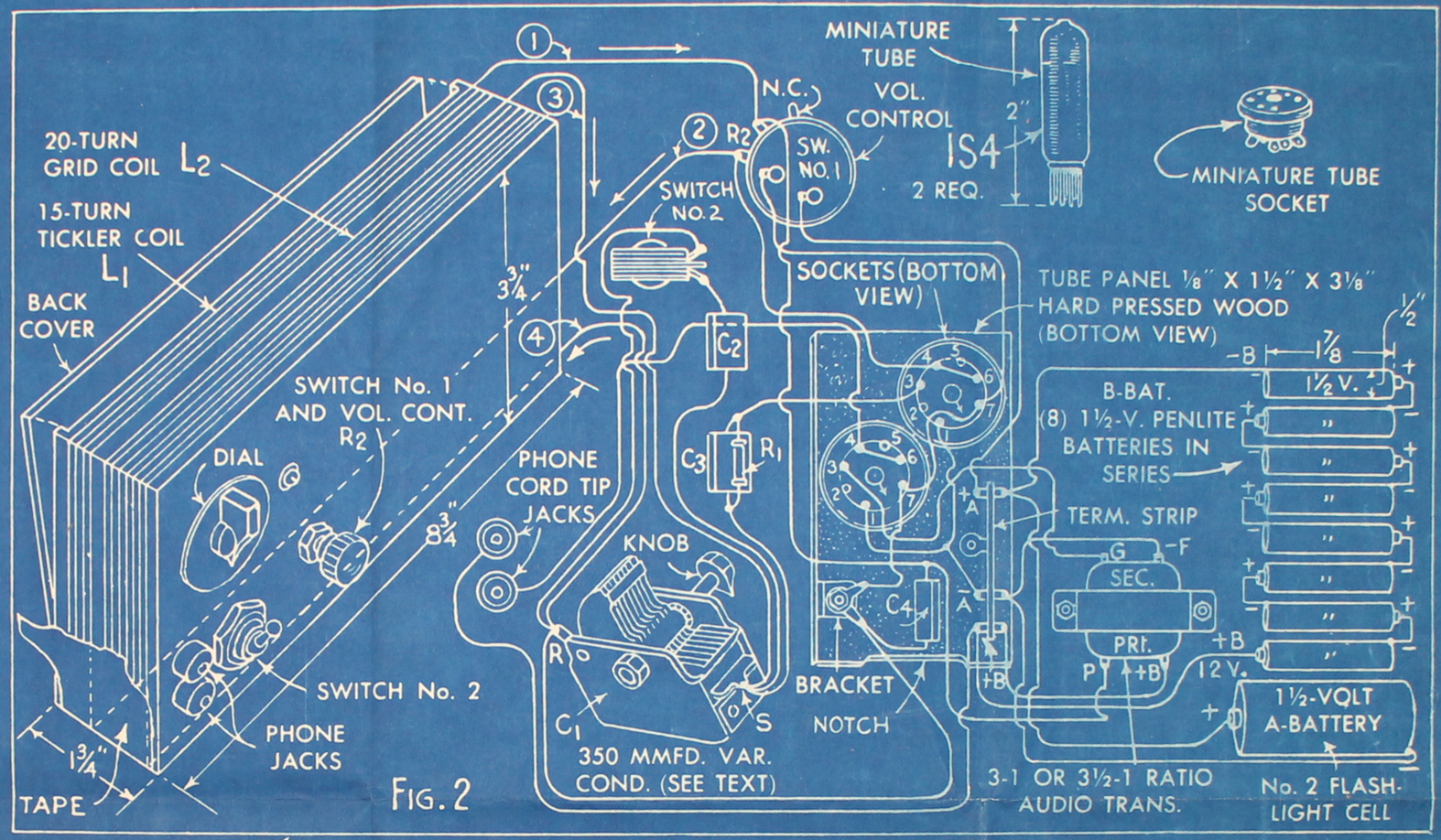


FIG. 2

SCHEMATIC CIRCUIT DIAGRAM

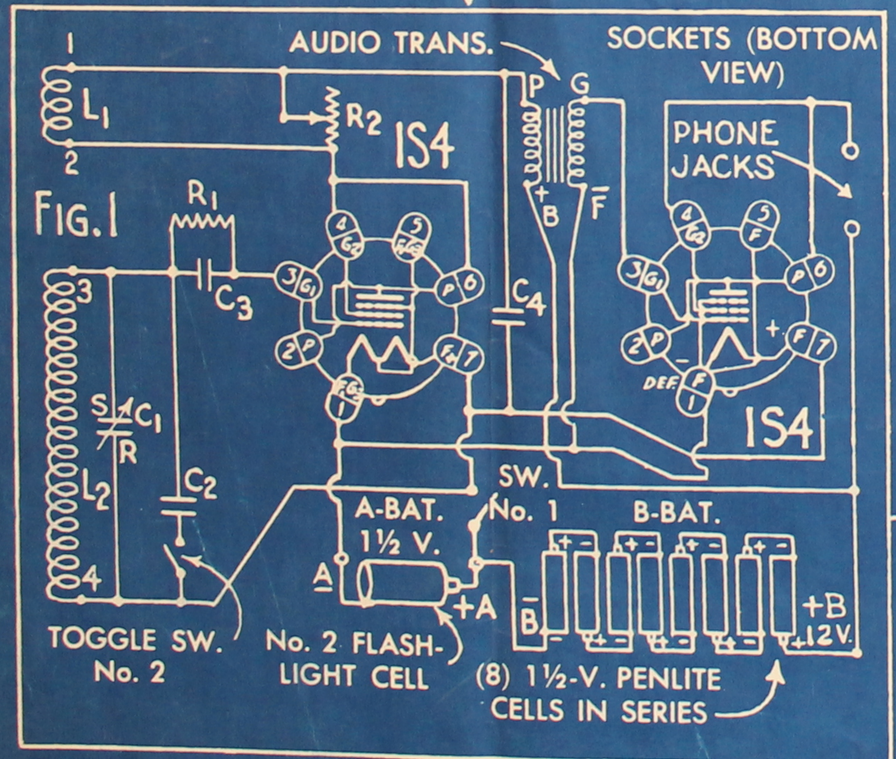
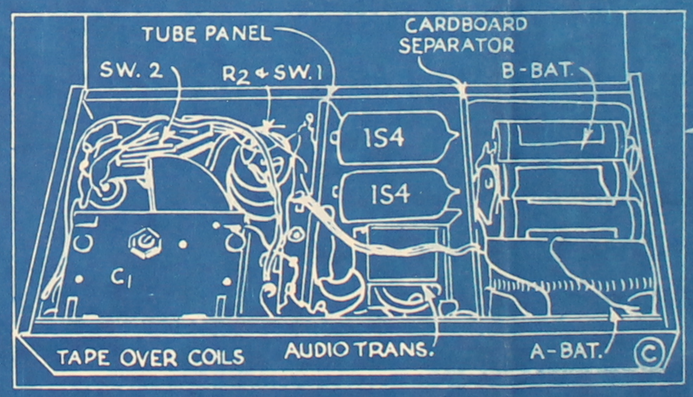


FIG. 1

PICTORIAL WIRING DIAGRAM



GENERAL VIEW NOT FOR WIRING

R1=2 meg. ½ watt resistor
R2=0-10,000-ohm vol. control
C1=350 mmfd. var. condenser
C2, C3 and C4=.00025 mfd. mica or paper type
L1=15 turns No. 24 d.c.c. wire
L2=20 turns No. 24 d.c.c. wire
Note—Either No. 22, 24 or 26 wire may be used

Two-Tube "Pockette" Portable Operates on Flashlight Cells

DRAWN BY R.B.	RADIO BLUEPRINT R-337
TRACED BY H.N.	
CHECKED BY F.L.B.	ISSUE Sept. 1945

POPULAR MECHANICS MAGAZINE
200 EAST ONTARIO STREET · CHICAGO

ORIGINAL MATERIAL LIST FOR
POPULAR MECHANICS MAGAZINE LIST: R-337

TWO-TUBE "POCKETTE" PORTABLE OPERATES ON FLASHLIGHT CELLS

THIS TWO-TUBE "walkie-talkie" type broadcast receiver, described in the September1945 issue of Popular Mechanics Magazine, is small enough to slip into your coat pocket with just enough extending out the top for tuning purposes. Using a built-in loop antenna and operating without external connections, this pocket set brings in local broadcasting stations with good volume. It also includes a "high-low" switch and fixed condenser tuning arrangement with the result that it tunes all of the broadcast band with an additional range on both ends of the dial. Designed for the student experimenter and built from odds and ends of spare parts. it is easy to duplicate. Those that built the one-tube "Pockette" set that appeared in the July 1944 issue can use the same tube, midget variable condenser and phone-tip jacks, add- the additional tube and other parts specified. NOTE- AN ENLARGED BLUEPRINT of the layout and circuit diagrams for this student set is available from Popular Mechanics Magazine Radio-TV and Electronics Department, 200 E. Ontario Street, Chicago 11, Illinois, for 40¢ to cover cost and mailing --specify BLUEPRINT R-337. Despite its small size this set employs a tiny hard pressed wood chassis base, or tube-mounting panel.This helps to keep the leads short and supports the 1S4 tube sockets firmly. Two type 1S4 miniature tubes are employed in a standard regenerative circuit; it consists of a regenerative detector transformer coupled to a single audio output stage. The outstanding feature of the "pockette" set is the coil which consists of two windings made directly on the outside of the wooden case. This coil provides a loop antenna for reception, and like all loops, it is directional. No. 24 d.c.c. wire was used for the coil and all connections. The wire may also be either No. 2[illegible] or 2 6. Please note that the A and B-battery leads are soldered directly to the positive and negative ends of the flashlight cells. Battery clip arrangements are not advised as they usually fail to make good mechanical and electrical connections. Eight "penlite" cells connected in series provide 12 volts for the B-battery supply. The A-battery consists of a single standard size (No. 2) 1 1/2 volt flashlight cell. No attempt was made to cable the battery leads in the compact set; all other leads should be kept as short as possible. If there are any points not clear to the builder he may write to the Radio-TV and Electronics Editor, Popular Mechanics Magazine, 200 E. Ontario Street, Chicago 11, Illinois, for further information.There is no charge for this service.

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1- Wood case 1 3/4 in. deep, 3 3/4 in. wide and 8 3/4 in. long. This was made by cutting down a cigar box, retaining a portion of the lid for the back cover. The case dimensions may be altered slightly depending upon the size of your parts. However, these changes should be in the depth of the case rather than the length and width so as not to alter coil dimensions. The front panel is of heavy Bristol board or similar cardboard. Pebbled photo mounting board was used in the model. NOTE- when the set is completed and working, the coils should be covered with adhesive tape to prevent moisture from reaching the coil.This is important for best results. Some builders located in damp localities are advised to cover the entire cabinet with black oilcloth or similar material to keep the coil free from moisture.When applying such material use shellac or china cement.

Coils- L1 consists of 15 turns of No. 24 d.c.c. wire close wound.
L2 consists of 20 turns of No. 24 d.c.c. wire close wound
Note- both coils are wound in the same clockwise direction,and are spaced 1/8 in. apart.

1- 2 megohm 1/2 watt carbon resistor (R1) Red-Black-Green (color code)
1- 0-10,000-ohm volume control (R2) with switch Note- this variable resistor should be a midget type.
1- 350 mmfd. midget type variable condenser (C1) Note- this may be either a 360 or 365 mmfd. if 350 mmfd. is not available.
3- .00025 mfd. mica or paper type fixed condensers (C2) (C3) and(C4)
1- Piece of hard pressed wood 1/8 by 1 1/2 by 3 1/8 in. (for tube panel)
2- Type 1S4 miniature tubes
2- Sockets for miniature type tubes (Amphenol or similar)
1- Toggle switch (single-pole single throw type) for switch No. 2
1- Dial plate (midget type) 0-100, 1 5/8 in. in diameter(cement to panel)
1- Pointer knob; 2 phone-tipe jacks; 1 knob for volume control
1- Terminal strip with three insulated lugs; 1- common midget type audio transformer 3-1 or 3 1/2-1 ratio; 3 penlight cells and 1 No. 2 flashlight cell. Note- these can be Ray-O-Vac, Eveready, Burgess or similar standard flashlight cells.

Note- a pair of 2,000 ohm sensitive headphones should be used. With switch No. 2 thrown to the position that adds the fixed condenser C2 to the circuit, the set tunes from approximately 530 kc. to about 900 kc. With condenser C2 switched out of the circuit the set tunes from 900 kc. to approximately 1600 kc.